

REMARKS

Reconsideration and allowance of this application are respectfully requested in light of the above amendments and the following remarks.

Claims 14, 15, and 20 have been amended to overcome the section 112, first paragraph, rejections applied thereto. The amendments are considered to be non-narrowing; therefore, no estoppel should be deemed to attach thereto.

Claims 14-21 were rejected, under 35 USC §103(a), as being unpatentable over a combination of the teachings of five references: Coquin et al. (US 5,668,541) in view of Sekine et al. (US 6,067,497), Cleary et al. (US 4,638,437), Middleton et al. (US 5,499,025), and Weiss (US 2005/0057701).

The Applicants respectfully traverse these rejections based on the points set forth below.

Claim 14 recites, *inter alia*, a head-up display that displays a symbol on the windscreen of an aircraft, to visually project, via the symbol, a calculated stopping position of the aircraft in the pilot's view of the runway. This arrangement may be used by the pilot to determine up to what moment the takeoff may be interrupted without risk of overshooting the runway.

The office action in Section 2, lines 10-14 acknowledges deficiencies in the primary Coquin reference *vis-a-vis* claim 14, and argues that selected individual teachings of the four secondary references cure these deficiencies. The Applicants respectfully disagree for at least the following reasons.

The cited Cleary, Middleton and Weiss references do not teach or suggest the above-noted feature of claim 14, and the Office Action does not propose otherwise.

Instead, the Office Action proposes that (1) Cleary teaches presenting the stopping distance to the pilot with respect to the end of the runway, (2) Middleton discloses a head-up display that displays a stopping symbol and (3) Weiss discloses projecting symbols in the pilot's field of view (Office Action page 4, lines 4-7). The Applicants note that, a head-up display, such as that disclosed by Middleton, seemingly projects symbols in a pilot's field of view. Weiss is cited for a functional/structural teaching of projecting symbols in the pilot's field of view and for providing a motivation to use a head-up display (i.e., to reduce the pilot's physical tasks in landing and aiming an aircraft). However, even when these references are considered in combination, they still lack any teaching or suggestion of

functional/structural features of the claimed invention as noted below.

The Applicants respectfully submit that none of the applied references, including Middleton, teaches or suggests the claimed feature of displaying a symbol in the pilot's field of vision to visually project a calculated stopping position of the aircraft on the pilot's view of the runway. That Middleton lacks this teaching was acknowledged by the Final Rejection dated November 23, 2005. In brief, as noted in previous Responses and reiterated below, Middleton employs a graphic of the runway and projects the symbol on this graphic, not on the pilot's actual view of the runway. Yet now and on two previous occasions, the Office has proposed that Middleton discloses a head-up display that displays an aircraft stopping symbol in the pilot's field of vision of the runway (see Final Rejection dated January 26, 2005, section 3, lines 4-7, and Office Action dated June 30, 2005, page 3, lines 8-11). The Applicants gave an explanation in the Amendment dated March 10, 2005, why Middleton fails to disclose a head-up display that displays an aircraft stopping symbol in the pilot's field of vision of the runway, and the Applicants further noted, in the Amendment dated August 30, 2005, various differences between the claimed feature and Middleton's

disclosure. In response, in the Final Rejection dated November 23, 2005, the Office acknowledged that Middleton does not teach or suggest the subject matter for which it was cited and replaced this reference with Bubb (DE 33 28 226). The presently pending Office Action now acknowledges that Bubb does not teach the subject matter for which it was cited by withdrawing Bubb as a reference and renewing reliance on Middleton, which the Office has previously acknowledged does not teach the subject matter for which it is currently being applied.

For thoroughness, the Applicants hereby re-submit the remarks that were presented in the Amendment dated August 30, 2005, and realized by the Office as distinguishing the claimed subject matter from Middleton's teachings, as indicated in the Final Rejection dated November 23, 2005.

Claim 14 recites a head-up display that displays a symbol on the windscreen of an aircraft, in the pilot's field of vision, that visually projects a calculated stopping position of the aircraft on the pilot's view of the runway.

By contrast to the claimed feature, Middleton teaches in Figs. 7E and 10B a head-up display that displays a "runway graphic" (Middleton col. 11, lines 60-62, and col. 13, line 32, through col. 14, line 11). Although Fig. 7E does not illustrate

displaying a predicted stop point on the runway graphic, Fig. 10B illustrates the superimposed display, on the runway graphic, of both a predicted stop point using maximum braking 63 (star symbol) and a predicted stop point using a current level of measured acceleration 64 (oval symbol) (col. 13, lines 33-38).

However, claim 14 does not relate to superimposing a stop-point symbol on the display of a runway graphic. Instead, claim 14 relates to the pilot's actual view of the runway as this view of the runway is seen through a transparent windshield of the aircraft. A symbol is displayed (e.g., reflected) on the aircraft windshield such that this displayed symbol (e.g., the displayed symbol's point of reflection off the windshield) is superimposed on the pilot's view of the actual runway so as to provide a visual indication of where the aircraft is expected to come to a stop.

Because the stop-point symbol of claim 14 is superimposed on the pilot's actual view of the runway, it necessarily follows, - contrary to the June 30, 2005, Office Action proposal in the second paragraph of section 3 - that this view cannot be seen in any scale other than its actual scale, because, of course, the human eye is not capable of changing the visual scale of objects in its field of vision.

As noted in the June 30, 2005, Office Action, a head-up display is usually small (June 30, 2005, Office Action section 3, line 6). Due to the small size of the display, the superimposed depiction of a displayed symbol indicating the predicted stop point of an aircraft on a displayed runway graphic, as taught by Middleton, must also be small. Moreover, the June 30, 2005, Office Action appears to acknowledge that a head-up display could not illustrate a runway effectively in actual scale (see section 3, lines 6-7).

The claimed invention overcomes all of the problems that the June 30, 2005, Office Action acknowledges exist in systems like that taught by Middleton. It does this by superimposing the display of a stop-point symbol on the pilot's view of the actual runway. As a result, the pilot need not search for the symbol in a small display nor search for the symbol's position on a scaled graphical representation of the runway. In light of the June 30, 2005, Office Action's recognition of the deficiencies of Middleton's system, the advantages provided by the invention defined by claim 14 become all the more apparent.

In summary, Middleton does not teach the feature recited in claim 14 of a head-up display that displays a symbol on the windscreen of an aircraft, in the pilot's field of vision, to

visually project a calculated stopping position of the aircraft on the pilot's view of the runway.

The Office action notes that Cleary also teaches displaying a stop-position with respect to the end of a runway (see Office Action page 4, lines 7-10). However, the Office Action does not propose that Cleary supplements Middleton's teaching of displaying a stop-position on a graphical display of a runway and no supplementation is apparent in Cleary's disclosure. The Office Action also does not propose that Coquin or Sekine suggests the above-discussed features distinguishing claim 14 from the teachings of Middleton and Weiss.

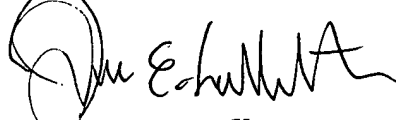
Accordingly, the Applicants respectfully submit that the applied references, considered singly or in combination, do not render obvious the subject matter defined by claim 14. Independent claims 15 and 20 similarly recite the above-described feature distinguishing method claim 14 from the applied references, but with respect to apparatuses.

Therefore, allowance of claims 14, 15, and 20 and all claims dependent therefrom is warranted.

In view of the above, it is submitted that this application is in condition for allowance, and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James E. Ledbetter". The signature is fluid and cursive, with the first name "James" being more prominent.

James E. Ledbetter

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JEL/DWW/att

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